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AN 1988:40093 CAPLUS
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TI Manufacture of **water-soluble low-molecular-weight chitosan** with narrow molecular weight distribution
IN Tanzawa, Tomoya; Asao, Yoshiichi; Akikubo, Akira
PA Lion Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
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AB The title chitosan is prepared in high yield by soaking high-mol.-weight chitosan in aqueous nitrite salt solution and adjusting the pH to ≤ 5 with acid. Soaking 278 g powdered chitosan in 1300 g water containing 19 g NaNO_2 for 5 min, adding 150 g AcOH during 5 min, and stirring 2 h gave 92% chitosan having mol. weight 2800 and a narrow mol. weight distribution.

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File: JPAB

Aug 12, 1987

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TITLE: PRODUCTION OF LOW-MOLECULAR WEIGHT WATER-SOLUBLE CHITOSAN

PUBN-DATE: August 12, 1987

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US-CL-CURRENT: 536/20

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ABSTRACT:

PURPOSE: To obtain low-MW water-soluble chitosan useful for, e.g., drugs easily in good yields, by soaking chitosan in an aqueous solution of a nitrite, acidifying the reaction system by the addition of an acidic substance and effecting a MW reduction of the chitosan.

CONSTITUTION: Chitosan is produced by, for example, a method comprising deacetylating chitin obtained by deashing and deproteinizing the shells of crabs. The obtained chitosan is soaked in an aqueous solution of a nitrile (e.g., sodium nitrite) to impregnate the porous chitosan uniformly with the nitrite. The pH of the reaction system is adjusted to 5 or below by the addition of an acidic substance (e.g., acetic acid or hydrochloric acid), and the whole system is agitated to effect a MW reduction of the chitosan. It is desirable that a nitrite is further added to the reaction system after the acidic substance has been added to it. After the reaction, the reaction mixture solution is neutralized to obtain the purpose water-soluble chitosan of a decreased MW.

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